



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jennifer Stone-Sundberg, et al.
Title: SPINEL BOULES, WAFERS, AND METHODS FOR FABRICATING SAME
Application No.: 10/668,610 Filed: September 23, 2003
Examiner: Stephen J. Stein Group Art Unit: 1775
Atty. Docket No.: 1035-BI4281

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- ☒ Form(s) PTO/SB/08A and/or PTO/SB/08B or PTO/1449
☐ Other: n/a

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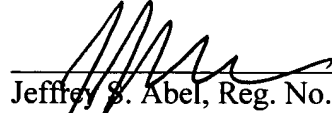
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Respectfully submitted,



Jeffrey S. Abel, Reg. No. 36,079

Attorney for Applicant(s)

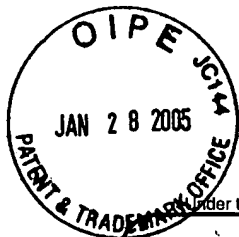
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PTO/SB/08A (08-03)

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STATEMENT BY APPLICANT**

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Sheet 1

of 3

Complete if Known

Application Number	10/668,610
Filing Date	September 23, 2003
First Named Inventor	Jennifer Stone-Sundberg
Art Unit	1775
Examiner Name	Stephen J. Stein
Attorney Docket Number	1035-BI4281

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA	US- 4,963,520	10/16/1990	Yoo, et al.	
	AB	US- 5,982,796	11/09/1999	Kokta, et al.	
	AC	US- 5,654,973	08/05/1997	Stultz, et al.	
	AD	US- 5,557,624	09/17/1996	Stultz, et al.	
	AE	US- 6,366,596	04/02/2002	Yin, et al.	
	AF	US- 6,023,479	02/08/2000	Thony, et al.	
	AG	US-			
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FOREIGN PATENT DOCUMENTS

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Sheet 2 of 3

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	BA	Efimov, A.N., et al., "Onan Unusual Azimuthal Orientation Relationship in the System Gallium Nitride Layer on Spinel Substrate", CRYSTALLOGRAPHY REPORTS, 45(2): 312-317 (2000).	
	BB	Sun C.J., et al., "Mg-doped green light emitting diodes over cubic (1 1 1) MgAl ₂ O ₄ substrate", APP. PHYS. LETT. 72(19): 2361-2363 (1998).	
	BC	Efimov, A.N., et al., "Symmetry constraints and epitaxial growth on non-isomorphic substrate", THIN SOLID FILMS 260: 111-117 (1995).	
	BD	George, T., et al., "Novel symmetry in the growth of gallium nitride on magnesium aluminate substrates", APPL. PHYS. LETT. 68(3): 337-339 (1996).	
	BE	Sun C.J., et al., "Deposition of high quality wurtzite GaN films over cubic (1 1 1) MgAl ₂ O ₄ substrates using low pressure and metalorganic chemical vapor deposition," APPL. PHYS. LETT. 68(8): 1129-1131 (1996).	
	BF	Nakamura, S., et al., "Characteristics of InGa _N multi-quantum-well-structure laser diodes," APPL. PHYS. LETT. 68(23): 3269-3271 (1996).	
	BG	Khan, M.A., et al., "Cleaved cavity optically pumped InGa _N -Ga _N laser grown on spinel substrates," APPL. PHYS. LETT. 69(16): 2418-2420 (1996).	
	BH	Tempel, A., et al., "Nachweis von Stapelfehlern in GaN-Exitaxieschichten mittels Elektronenbeugung," KRISTALL UND TECHNIK 10(7): 741-746 (1975).	
	BI	Tempel, A., et al., "Zur Epitaxie von Galliumnitride auf nichtstoechiometrischem Spinel im System GaC ₁ /NH ₃ /He," KRISTALL UND TECHNIK 10(7): 747-758 (1975)	
	BJ	K.V. Yumashev, "Saturable absorber Co ²⁺ : MgAl ₂ O ₃ crystal for Q switching of 1.34-um Nd ³⁺ : YAlO ₃ and 1.54-um Er ³⁺ : glass lasers," APPLIED OPTICS 38(30): 6343-6346 (1999).	

Examiner Signature	Date Considered
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	CA	Camargo, M.B., et al., "Co2+ Y3Sc2Ga3O12 (YSGG) Passive Q-Switch for Infared Erbium Lasers," submitted to LEOS in 1994.	
	CB	Mikhailov, V.P., et al., "Passive Q-switch performance at 1.3u (1.5u) and nonlinear spectroscopy of Co2+: MgAl2O4 and Co2+: LaMgAl11O9 cyrstals," OSA TOPS VOL. 26 Advanced Solid-State Lasers, pp. 317-324 (1999).	
	CC	Stulz, R.D., et al., "Diavalent Uranium and Cobalt Saturable Absorber Q-Switches at 1.5um," OSA Proceedings on Advanced Solid-State Lasers, 24:460-464 (1995).	
	CD	Birnbaum, M., et al., " Co2+: ZnSe Saturable Absorber Q-Switch for the 1.54 Um Er3+: Yb3+: Glass Laser, " OSA TOPS Vol. 10 Advanced Solid State Lasers, pp. 148-151 (1997).	
	CE	Machida, H., et al., "difficulties encoutered during the Czochralxki growth of TiO2 single crystals," JOURNAL OF CYRSTAL GROWTH, 112: 835-837 (1997).	
	CF	Camargo, M.B., et al., "Broad-band 1.54 um Saturable Absorber Q-switch with Co2+, " submitted to ASSL in 1995.	
	CG	Yumashev, K.V., et al., "Nonlinear spectroscopy and passive Q-switching operation of a Co2+: LaMgAl11O19 crystal," J. OPT. SOC. AM. B., 16(12): 2189-2194 (1999).	
	CH		
	CI		
	CJ		

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